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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/816,115	03/26/2001	Shuichi Watanabe	04202.0137	6251

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EXAMINER

BETTENDORF, JUSTIN P

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 12/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/816,115

Applicant(s)

WATANABE ET AL.

Examiner

Justin P. Bettendorf

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 5 and 8 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification needs to disclose how the same conductor plate as recited in claim 5 integrally forms the terminal electrodes and at least one of the input/output terminals. Such a recitation yields all of the terminals electrodes being electrically connected, which would make the device unusable (i.e., **all of the terminals would be short circuited together**). With respect to claim 8, the feature corresponding to the recitation “**means for positioning said laminate module**” needs to be disclosed because it is not clear from the disclosure (including the drawings) **what element(s) performs the recited function**. Without this explicit information, one skilled in the art would be required to perform undue experimentation or speculate in order to make and use the claimed invention.

Claim Rejections - 35 USC § 102

3. Claims 1, 2, 13, 17, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawada JP 09-055607 (cited by the applicant).

The Kawada reference discloses in figure 1 a non-reciprocal circuit device (i.e. circulator) that is for use in a cell-phone (which inherently includes transmit, receive, and antenna circuits)

{see attached English translation para. [0001]} comprising: central conductors 52A-52C bent around the magnetic body ferrite 56 with insulation films therebetween [0017]; permanent magnet 82; yoke-forming metallic cases 84, 72 [0023]; a flat laminate module 60 with integrated matching capacitors having patterns 62A-62C [0019]; and a resin composite base 74 comprising the conductor plate 72 integrated therewith and terminal electrodes 74A-74E [0021] (thereby meeting the limitation of "conductor plates") connected with side connections 66A-66E [0020].

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawada in view of Watanabe et al. JP 04-172702.

The Kawada reference discloses the claimed non-reciprocal circuit including a laminate module with integrated capacitors but does not disclose multiple electrode patterns connected by via electrodes nor a ground pattern on the lower surface of the laminate module 60.

Nevertheless, the Watanabe et al. reference discloses in figure 7 a multilayer substrate (i.e. laminate) capacitor with electrode patterns connected by via connections (e.g. 851, 852, etc) and a ground layer 81 substantially covering the entire lower surface (fig. 6) for a non-reciprocal device that advantageously allows a large capacitance without a large increase in size of the device (see the abstract).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to have substituted the art-recognized equivalent multilayer, laminate capacitor of Watanabe et al. in place of the laminate capacitor in the non-reciprocal device of Kawada because such a substitution of art-recognized equivalent laminate capacitors would have advantageously allowed for larger sized capacitors without increasing the overall size of the device thereby suggesting the obvious modification.

6. Claims 4-8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawada in view of Yamamoto et al. United States Patent No. 5,900,789.

The Kawada reference teaches a non-reciprocal device with a resin composite base and integrated conductor “plates” 72, 72A but does not disclose the electric resistance of the “plates” (e.g., $5.5 \times 10^{-8} \Omega$ as recited in claims 4 and 16).

The Yamamoto et al. reference discloses that it is advantageous to coat the yoke (i.e. casing) with a metal having a resistivity $5.5 \mu\Omega$ or less to decrease signal loss (see abstract).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to have added a coating having a low resistance to the yoke (i.e. casing) in the non-reciprocal device of Kawada as taught by Yamamoto because such a modification would have advantageously reduced signal loss.

With respect to claim 5, it is assumed that terminals 74A-74E meet the intended claim language and that the upturned walls 72 meet the intended claim language of claim 8. It should be noted that process steps such as “integrally molded” are given patentable insofar as these process steps affect the final structure. In the application of the rejection with respect to claim 4,

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"integrally molded" is given no weight because the resin composite 74 is attached to the plates 72 thereby yielding an integral structure.

7. Claims 10, 11, 12, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawada in view of Marusawa et al. United States Patent No. 5,774,024.

The Kawada reference discloses a non-reciprocal device but does not disclose a laminate magnetic body with the central conductors located therein.

The Marusawa et al. reference discloses a non-reciprocal device in figure 12 central electrodes 55-57 (formed of multiple conductors connected by via connections - see also figure 4) that includes magnetic ceramic material to form a non-reciprocal device that allows for fewer parts and miniaturization (col. 8, lines 8-15, col. 3, lines 42-52, and col. 9, lines 12-24).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to have substituted the magnetic body/central conductors of Marusawa et al. in place of the magnetic body/central conductors in the non-reciprocal device of Kawada because such a substitution of art-recognized equivalent magnetic body/central conductors would have advantageously allowed for few parts and miniaturization thereby suggesting the obviousness of the modification.

Response to Arguments

8. Applicant's arguments filed 10/9/02 have been fully considered but they are not persuasive.

With respect to claims 5 and 8, the applicant asserts that the specification provides the required support and cites several ⁹pages as evidence.

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13 This assertion is not persuasive. Claim 5 recites that the same conductor plate integrally forms the terminal electrodes (i.e. all) and at least one of the input/output terminals. This recitation implies that the terminal electrodes and at least one of the input/output terminals are electrically short-circuited thereby yielding an unworkable device. Also, the "at least one" indicates that a plurality may be formed integrally - thereby short-circuiting ^{input/output electrodes} _a. With respect to claim 8, the applicant has not provided evidence of what element performs the "means for positioning".

Applicant argues with respect to JP '607 that "substantially flat surface of a composite base comprising an insulation member and conductor plates" is not taught.

This argument is not persuasive. The phrase "conductor plates" must be given its broadest reasonable interpretation in light of ... the written description (MPEP 2163). Therefore, the portions of 72 (e.g. 72A) that are in contact with the resin insulation member 74 as well as the top and bottom portions of 74A, 74B are considered as the "conductor plates" on the insulation member 74 (see also figure 2 of JP '607).

The applicant also argues that JP '702 has a ground electrode 81 below the capacitors that cannot meet limitations of claim 3 which require the ground electrode of the laminate module to be on a substantially entire lower surface thereof and directly connected to a ground electrode of said composite base. The applicant also argues that via-electrodes are not shown.

This argument is not persuasive. Applicant's attention should be drawn to figure 6 of JP '702 that clearly shows the ground conductor 81 on the lower surface of the laminate module. The outcrop 72A would clearly be electrically connected to make a ground connection in JP '607

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as it is the upper surface of the composite formed by 74. Also, JP '702 makes use of vias 851, 852, etc. for connections of the capacitor electrode patterns to increase the capacitance.

The applicant makes further assertions that no/insufficient motivation for making a prima facie case of obviousness.

This argument is not persuasive. In each instance, sufficient motivation was provided that was either taken from the prior art of record or in the knowledge generally available to one of ordinary skill in the art (see MPEP 2143).

Accordingly, the rejections are sustained.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

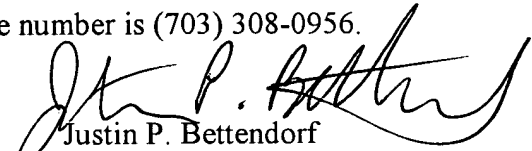
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin P. Bettendorf whose telephone number is (703) 308-2780. The examiner can normally be reached on 6:00-3:30 (M-F, 1st Friday off).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on (703) 308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Justin P. Bettendorf
Primary Examiner
Art Unit 2817

jpb
December 16, 2002